

Program Element: W 1331R

Office: Program Support Element

Activity: Operational Systems

Project Activity: W 1331R Programs

Program Element: W 1331R (W 1331R)

Project Number	Title	FY 1966 Actual	FY 1967 Actual	FY 1968 Estimate	FY 1969 Estimate	FY 1970 Estimate	Additional to Completion	Total Estimate
	TOTAL FOR W 1331R ELEMENT	16,431	4,816	21,000	27,600	25,400	Continued	100

BRIEF DESCRIPTION OF ELEMENT: The Program Support Element (W 1331R) is the key element of the Worldwide Military Command and Control System (WWMCCS). The system's present deployment consists of satellites and two dedicated ground-based stations.

BASIC FOR FY 1970 BUDGET REQUEST: This request includes funds for auxiliary improvement and development of the satellite system in support of W 1331R requirements.

Another area is testing of the prototype simplified processing station hardware and software. Development of payload modification for compatibility with shuttle/TITAN III/INTEK launch stage is initiated.

BASIC FOR INCREASE IN FUND OVER 1969: The increase in appropriations for the initiation of shuttle/Titan III/Intek upper stage compatibility development.

Program Element: W 1-5-11  
Category: Operation of Systems

Title: Development of a Data Processing System for the  
Defense Satellite Communications System

RELATED TASK NUMBER AND DESCRIPTION: The Defense Support System (DSS)

to the Defense Command Authorities (DCA) and other designated users.

The Joint Chiefs of Staff (JCS) have designated the Aerospace Defense Command (ADCOM), Strategic Air Command (SAC), National Military Command Center (NMCC), Atlantic Command (SANTCOM), Pacific Command (PACOM), European Command (EUCOM)

has users of the DSS.

Evolutionary system improvements are intended to prolong the useful life of each satellite, make the satellite more survivable

increase the viewing area of each satellite, and increase the accuracy of data provided for the NSA decision making process.

#### RELATED ACTIVITIES:

Satellite Communications System - Phase II (SS10F) provides data communications routing. Space Booster (SS11F) provides launch support. Space Vehicle Subsystem Advanced Development (SS101F) is developing technology for improved reaction wheels. The National Emergency Airborne Command Post (NEACP) and East-Attack Command and Control System (EACCS) are potential users of DSP data. DSP is the key element of the Worldwide Military Command and Control System (WMCCS)

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LEAD-UP ACCOMPLISHMENTS AND FUTURE PROGRAMS:

was initiated to provide increased viewing area and more accurate data  
fications for satellite retrofit to improve survivability.  
DSP augmentation was completed.

In FY 76, sensor development  
Development of anti-  
was initiated. R&D support for

Program Element: # 1.4MFP  
Category: Operational Systems

Office: Program Management Office  
Index: 1.4MFP

2. FY 1977 Program: Expenditures include intensive development effort for the improved sensor capability in the viewing area.

payload/shuttle compatibility studies; satellite modification development for improved survivability and increased data survivability; continued studies and software development for Simplified Processing Station (delivery in Jan 78); completion of ground station modifications; completion of Satellite Tracking & Telemetry Equipment procurement; and analysis of orbital data.

3. FY 1978 Planned Program: The major part of the FY 78 funds will be applied to sensor development and payload/shuttle/TITAN III/Interim Upper Stage (IUS) compatibility development. Development of the improved sensor will be completed.

The improved capability will be retrofit on satellites currently in the storage inventory and will be incorporated on all new satellite procurements. Intensive development of shuttle/payload compatibility modification is initiated for inclusion on satellite 14, procured in FY 80. Funds to insure TITAN III/IUS compatibility for the satellite retrofit program are included. Improved spacecraft data transmission capability development is initiated to incorporate state-of-the-art technology and increase reliability. Funding for the Simplified Processing Station Initial Operational Test and Evaluation, operation/maintenance demonstration and engineering support is also continued through FY 82. Satellite improvement studies and analysis of data gathered from initial operations will continue.

4. FY 1979 Planned Program: Plans include continued development of payload/shuttle/TITAN III/IUS modification; completion of improved spacecraft data transmission capability development; satellite improvement studies; and analysis of orbital operations data.

5. Program to Completion: This is a continuing program. RDT&E funding will support continued evolutionary satellite development in support of DOD requirements. Primary emphasis will be directed toward eliminating or minimizing deficiencies discovered during operational employment and development of the capability to use the space shuttle and/or TITAN III/IUS in lieu of the TITAN IIIC booster.

#### 6. Milestones:

	<u>Date</u>	<u>Estimated Cumulative RDT&amp;E Cost to Reach Milestones (\$ in Thousands)</u>
A.		360,200
B.		375,800
C.		382,100
D. <u>Delivery of Satellite #5</u>	<u>Mar 73</u>	392,000
E.		397,200

Program Element: # 1-2-11  
 Category: Operational Systems

Office: 1-2-11 1-2-11  
 Project Activity: #1 Operational Information

1. Delivery of Satellite #	1967	400,000
2. "	1968	400,000
3. Delivery of Satellite #	1967/78	400,000
4. Delivery of Satellite #	1967/78	400,000
5. Delivery of Satellite #	1967/78	400,000
6. "	1967/78	400,000
7. Satellite 10-12 retrofit complete	1967/78	400,000
8. Delivery of Prototype Simplified Processing Station	1967/78	400,000
9. Delivery of Satellite #13	1967/78	400,000

7. RESOURCES: (\$ in thousands)

	<u>FY 1969</u>	<u>FY 1970</u>	<u>FY 1971</u>	<u>FY 1972</u>	<u>FY 1973</u>	<u>Additional to Completion</u>	<u>Total Estimated Cost</u>
RFWER: Funds	10,400	5,846	24,000	27,000	27,000	Continuing	N/A
Quantities (N/A)							

Missile Procurement:

Funds	19,500	3,200	25,100	96,400	171,000	Continuing	N/A
Quantities							
Satellite Retrofit							
Booster				1			

Other Procurement:

Funds:	12,780	7	10,878	2,436	33,990	Continuing	N/A
Quantities							
SPS					1	Continuing	N/A

Military Construction Funds					1,000	Continuing	N/A
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\*Includes initial spares.

Program Element: #12-111F

Category: Operational Systems

Title: Defense Support Program (DSP)

Project Activity: #1 Strategic Programs

### Test and Evaluation Data

1. Development Test and Evaluation: The Defense Support Program is an operational system on which Development Test and Evaluation/Initial Operational Test and Evaluation (DOT&E/IOET) has been completed. Development Operational Test and Evaluation (DOT&E) is the responsibility of the operating command (Aerospace Defense Command). All discrepancies and deficiencies uncovered to date have been corrected or are planned to be corrected jointly by Aerospace Defense Command (ADCOM) and Air Force Systems Command (AFSC). Maintainability and reliability testing of the system were conducted by AFSC during system development and continue to be conducted by the system operator.
2. Operational Test and Evaluation: Current Air Force Test and Evaluation Center (AFTEC) testing activities of the DSP is limited to the combined test program (DOT&E/IOET) of the Simplified Processing Station (SPS). The combined test program of the post-type SPS is scheduled to begin in October 1977 and to be completed by May 1978. The tests will be conducted at IRI, the prime contractor; BRL, the integrating contractor; AF Weapons Laboratory at Kirtland AFB, NM; and at Vandenberg AFB, CA. Testing of the prototype at Vandenberg AFB will include a series of actual (not simulated) operations. An AFTEC test team composed of personnel from AFTEC, ADKOM, Air Force Logistics Command (AFLC), Air Training Command (ATC), Strategic Air Command (SAC), Air Force Communications Service (AFCS), USAF Security Service (USSS), will conduct the DOT&E portion of the test. The purpose of the DOT&E is to provide data and associated analysis of the operational effectiveness, suitability, and military utility of the SPS post-type to assist in a production decision, anticipated for mid to late FY 1978, and to recommend derived changes in any full-scale production SPS models.
3. System Characteristics: The new Simplified Processing Station (SPS) operational prototype contract has been awarded to a contractor team composed of IRI and TRW. The SPS will be a miniaturized, transportable, clandestine, manned, lower cost version of the current large, fixed, dedicated IRI ground stations. It is intended to be a backup to current ground stations.

Technical characteristics will be defined during the period of the contract. No demonstrated performance characteristics are yet available.